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Applicant: NIPPON TELEGRAPH AND TELEPHONE
CORPORATION
1-6 Uchisaiwaicho 1-chome Chiyoda-ku
Tokyo (JP)

Inventor: Kawachi, Masao
2066-2, Senba-cho
Mito-shi Ibaraki (JP)

Takato, Norio
2920-46, Mawatari
Katsuta-shi Ibaraki (JP)

Jinguji, Kaname
1217, Senba-cho
Mito-shi Ibaraki (JP)

Sugita, Akio
3217-1, Watari-cho
Mito-shi Ibaraki (JP)

Sumida, Shin
1008-F, Manor Lane
Columbus Ohio 43221 (US)

Representative: Colgan, Stephen James et al
CARPMAELS & RANSFORD 43 Bloomsbury Square
London WC1A 2RA (GB)

Integrated optical device and method for manufacturing thereof.

An integrated optical device comprising a substrate (1); a single-mode optical waveguide having a cladding layer (12) disposed on the substrate (1) and a core portion (4, 5) embedded in the cladding layer (12) and for transmitting light therethrough; and a stress applying film (31) disposed on a desired portion of the cladding layer (12) and for adjusting stress-induced birefringence of the single-mode optical waveguide by irreversibly changing a stress exerted on the core portion (4) by trimming technique. The integrated optical device can be manufactured by the steps of forming a cladding layer (12) on a substrate (1); forming a single-mode optical waveguide having a core portion (4, 5) embedded in the cladding layer (12) and for transmitting light therethrough; and forming, on the cladding layer (12), a stress applying film (31) for exerting a stress on the single-mode optical waveguide to irreversibly change the stress by trimming the film (31). The device exhibits a precisely adjusted birefringence and a desired polarization dependence or independence and is effective for constructing an integrated optical device for optical communication, for optical sensor or for optical signal processing, in which the polarization characteristics play an important role.

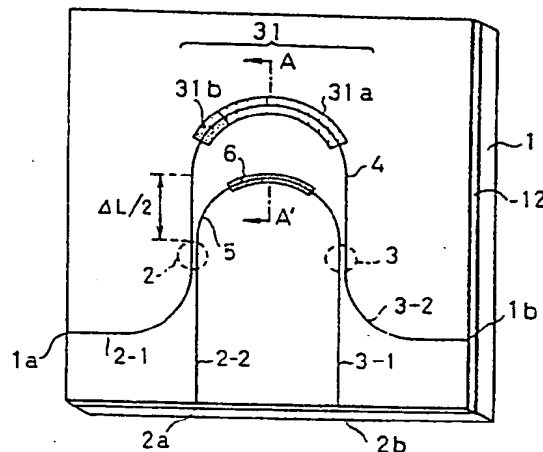


FIG. 1



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DOCUMENTS CONSIDERED TO BE RELEVANT			
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A	APPLIED OPTICS vol. 24, no. 5, March 1985; J. JACKEL et al.: "Thermally tuned glass Mach-Zehnder interferometer used as a polarization insensitive attenuator"; pages 612-614 * in total *	1,4	
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The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 27-04-1989	Examiner HYLLA W.A.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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The present search report has been drawn up for all claims			
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